UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX LABORATORY
1337 S. 46TH STREET
BLDG. 201
RICHMOND, CA 94804-4698

DEC 15 1999

MEMORANDUM

SUBJECT: Case R00S05, SDG 99308A
Results for 1,4-Dioxane, Anions, and Perchlorate Analyses

FROM: FOR Brenda Bettencourt, Director
EPA Region 9 Laboratory (PMD-2)

TO: Doug Frazer, Remedial Project Manager
Southern California Cleanup Section (SFD-7-3)

Attached are the report narrative, results spreadsheet from analysis of samples from the Whitter Narrows Superfund site. These data have been reviewed in accordance with EPA Region 9 Laboratory policy. Summary information for the data included in this report is as follows:

SITE/PROJECT:	Whittier Narrows Comprehensive
CASE:	R00S05
LABORATORY:	U. S. EPA Region 9 Laboratory
SAMPLE DELIVERY GROUP:	99308A
ANALYSIS:	1,4-Dioxane (R9 Lab SOP 307)
	Perchlorate (Cal DTSC method, R9 Lab SOP 531)
	Anions (EPA method 300.0)

A full documentation package for these data, including raw data and sample custody documentation, has been prepared and will be kept on file at the Region 9 Laboratory. Please contact Vance Fong of the Quality Assurance Program (PMD-3) to request review and/or validation of the data.

If you have any questions please contact Rich Bauer at (510) 412-2312, or Ken Hendrix at (510) 412-2321.

ATTACHMENT: Analytical Reports

USEPA REGION 9 LABORATORY
REPORT NARRATIVE

CASE NUMBER:	**R00S05**
SAMPLE DELIVERY GROUP:	**99308A**
PROGRAM:	**SUPERFUND**
DOCUMENT CONTROL #:	**ESTW-9B-2738**
DATE:	**12/02/99**
ANALYSIS:	**FLUORIDE, CHLORIDE, NITRITE AS NITROGEN, NITRATE AS NITROGEN, SULFATE AND PERCHLORATE**

SAMPLE NUMBERS:

SAMPLE ID	LABORATORY SAMPLE ID
WNC9921	AB25381
WNC9922	AB25382
WNC9923	AB25383
WNC9924	AB25415
WNC9925	AB25416
WNC9926	AB25417
WNC9927	AB25418
WNC9928	AB25445
WNC9929	AB25446
WNC9930	AB25447
WNC9931	AB25448
WNC9932	AB25480
WNC9933	AB25481
WNC9934	AB25482
WNC9935	AB25483
WNC9936	AB25484
WNC9937	AB26485

GENERAL COMMENTS

Seventeen water samples were received from the Whittier Narrows Comprehensive Superfund project on 11/04/99, 11/05/99, 11/06/99 and 11/10/99.

The requested analyses were fluoride, chloride, nitrite as nitrogen, nitrate as nitrogen and sulfate (EPA Method 300.0) and perchlorate (Region 9 Laboratoryb SOP 531). All samples were analyzed within the required holding times.

The nitrite-N quantitation limit was raised to 0.5 mg/L for samples with chloride levels above 25 mg/L due to interference from the chloride peak.

SAMPLE RECEIPT AND PRESERVATION

Samples WNC9928, WNC9929, WNC9930 and WNC9931 were received at a temperature of 8°C on 11/06/99. All custody seals were intact.

QA/QC SUMMARY

No analytes were detected in the blanks associated with this SDG.

Sulfate in the QC sample was greater than 4 times the added spike. Chloride concentration in the QC sample exceeded the calibration range with 20 mg/L spike. No LFM recovery was calculated. All other LFM recoveries were within the QC limits.

The RPDs for all duplicates were less than or equal to the 20% QC limit for all analytes where the sample result was greater than or equal to 5 times the quantitation limit. For analytes where the sample result was less than 5 times the quantitation limit the difference between the duplicates was less than the quantitation limit.

All LFB recoveries were within the QC limits.

Questions concerning the data can be answered by Patrick Hirata at (510) 412-2354.

Laboratory Reagent Blanks (LRB)

A laboratory reagent blank is laboratory reagent water or baked sand with all reagents added and carried through the same sample preparation and analytical procedures as the field samples. The laboratory reagent blank is used to determine the level of contamination introduced by the laboratory during analysis.

Laboratory Fortified Matrix and Laboratory Duplicate Analysis

The laboratory fortified matrix spike sample and laboratory duplicate analyses provide information about the effect of the sample matrix on sample preparation and measurement. Poor percent recovery (%R) results and large relative percent difference (RPD) between duplicates may indicate inconsistent laboratory technique, sample nonhomogeneity in soils, or matrix effects which may interfere with analysis.

Laboratory Fortified Blank (LFB) Analysis

The laboratory fortified blank is laboratory reagent water or baked sand with a known concentration of the analytes of interest added by the laboratory with all reagents added and carried through the same sample preparation and analytical procedures as the field samples. Poor percent recovery (%R) results may indicate inconsistent laboratory technique.

EPA REGION 9 LABORATORY-RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R00S05
Site: Whittier Narrows Comprehensive
SDG: 99308A
Date: 12/02/99

Analysis: Anions and Perchlorate
Matrix: Water

Station Location	21				22				23				24				25				26			
Sample I.D.	WNC9921				WNC9922				WNC9923				WNC9924				WNC9925				WNC9926			
Lab Sample I.D.	AB25381				AB25382				AB25383				AB25415				AB25416				AB25417			
Date of Collection	11/03/99				11/03/99				11/03/99				11/04/99				11/04/99				11/04/99			
Analyte	Result		Q	Com	Result		Q	Com	Result		Q	Com	Result		Q	Com	Result		Q	Com	Result		Q	Com
Fluoride (mg/L)	0.2				0.3				0.1	U			0.4				0.3				0.3			
Chloride (mg/L)	37				11				1				19				27				26			
Sulfate (mg/L)	180				34				1	U			55				92				120			
Nitrite-N (mg/L)	0.5	U			0.1	U			0.1	U			0.1	U			0.5	U			0.5	U		
Nitrate-N (mg/L)	7.5				0.1		J		0.1	U			0.2				5.5				5.7			
Perchlorate (ug/L)	11				5	U			5	U			5	U			5	U			5	U		

Com - Comments refer to the corresponding section in the report narrative for each letter.

N/A - Not Applicable.

N/R - Not Required.

Q - Refer to data qualifiers.

U - The parameter was analyzed for, but was not detected; The associated value is the sample detection limit, adjusted for dilution, if any.

J - The associated value is an estimated quantity.

Station Location	27				28				29				30				31				32			
Sample I.D.	WNC9927				WNC9928				WNC9929				WNC9930				WNC9931				WNC9932			
Lab Sample I.D.	AB25418				AB25445				AB25446				AB25447				AB25448				AB25480			
Date of Collection	11/04/99				11/05/99				11/05/99				11/05/99				11/05/99				11/09/99			
Analyte	Result		Q	Com	Result		Q	Com	Result		Q	Com	Result		Q	Com	Result		Q	Com	Result		Q	Com
Fluoride (mg/L)	0.1	U			0.2				0.1	U			0.2				0.3				0.2			
Chloride (mg/L)	1				58				1				73				38				40			
Sulfate (mg/L)	1	U			140				1	U			140				290				230			
Nitrite-N (mg/L)	0.1	U			5	U			0.1	U			5	U			0.5	U			0.5	U		
Nitrate-N (mg/L)	0.1	U			4.9				0.1	U			4.2				9.0				8.4			
Perchlorate (ug/L)	5	U			3		J		5	U			5	U			5	U			3		J	

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EPA REGION 9 LABORATORY-RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R00S05
Site: Whittier Narrows Comprehensive
SDG: 99308A
Date: 12/02/99

Analysis: Anions and Perchlorate
Matrix: Water

Station Location	33				34				35				36				37				N/A			
Sample I.D.	WNC9933				WNC9934				WNC9935				WNC9936				WNC9937				Reagent Blank			
Lab Sample I.D.	AB25481				AB25482				AB25483				AB25484				AB25485				N/A			
Date of Collection	11/09/99				11/09/99				11/09/99				11/09/99				11/09/99				N/A			
Analyte	**Result**		**Q**	**Com**	**Result**		**Q**	**Com**	**Result**		**Q**	**Com**	**Result**		**Q**	**Com**	**Result**		**Q**	**Com**	**Result**		**Q**	**Com**
Fluoride (mg/L)	0.2				0.1	U			0.4				0.6				0.2				0.1	U		
Chloride (mg/L)	40				1				21				64				40				1	U		
Sulfate (mg/L)	230				1	U			77				250				230				1	U		
Nitrite-N (mg/L)	0.5	U			0.1	U			0.1	U			5	U			1				0.1	U		
Nitrate-N (mg/L)	8.4				0.1	U			2				5.7				5.1				0.1	U		
Perchlorate (ug/L)	5	U			5	U			5	U			5	U			5	U			5	U		

Com - Comments refer to the corresponding section in the report narrative for each letter.

N/A - Not Applicable.

N/R - Not Required.

Q - Refer to data qualifiers.

U - The parameter was analyzed for, but was not detected; The associated value is the sample detection limit, adjusted for dilution, if any.

J - The associated value is an estimated quantity.

Station Location	N/A				N/A				N/A				Quantitation
Sample I.D.	Reagent Blank				Reagent Blank				Reagent Blank				Limit
Lab Sample I.D.	N/A				N/A				N/A				N/A
Date of Collection	N/A				N/A				N/A				N/A
Analyte	**Result**		**Q**	**Com**	**Result**		**Q**	**Com**	**Result**		**Q**	**Com**	**Result**
Fluoride (mg/L)	0.1	U			0.1	U			0.1	U			0.1
Chloride (mg/L)	1	U			1	U			1	U			1
Sulfate (mg/L)	1	U			1	U			1	U			1
Nitrite-N (mg/L)	0.1	U			0.1	U			0.1	U			0.1
Nitrate-N (mg/L)	0.1	U			0.1	U			0.1	U			0.1
Perchlorate (ug/L)	5	U											5

Com - Comments refer to the corresponding section in the report narrative for each letter.

N/A - Not Applicable.

N/R - Not Required.

Q - Refer to data qualifiers.

U - The parameter was analyzed for, but was not detected; The associated value is the sample detection limit, adjusted for dilution, if any.

J - The associated value is an estimated quantity.

USEPA REGION 9 LABORATORY REPORT NARRATIVE

CASE NUMBER: R00S05
SAMPLE DELIVERY GROUP: 99308A
PROGRAM: Superfund
DOCUMENT CONTROL #: ESTW-9B-2761
ANALYSIS PERFORMED: 1,4-dioxane
DATE SUBMITTED: December 8, 1999
SAMPLE NUMBERS:

Sample ID	Laboratory Sample ID	Sample ID	Laboratory Sample ID
WNC9921	AB25381	WNC9922	AB25382
WNC9923	AB25383	WNC9924	AB25415
WNC9925	AB25416	WNC9926	AB25417
WNC9927	AB25418	WNC9928	AB25445
WNC9929	AB25446	WNC9930	AB25447
WNC9931	AB25448	WNC9932	AB25480
WNC9933	AB25481	WNC9934	AB25482
WNC9935	AB25483	WNC9936	AB25484
WNC9937	AB25485		

GENERAL COMMENTS

Seventeen (17) water samples were received at the EPA Region 9 Laboratory from 11/4/99 to 11/10/99 from the Whittier Narrows comprehensive project.

These samples were analyzed for volatile organics in accordance with the USEPA Region 9 Laboratory SOP 307, *1,4-Dioxane Analysis.*

SAMPLE RECEIPT AND PRESERVATION

No issues related to shipping were encountered with these samples. The cooler temperature associated with the following samples exceeded the 2 to 6 ° C acceptance range for sample preservation:

Sample ID	Laboratory Sample ID	Date Received	Temperature
WNC9928	AB25445	11/5/99	8° C
WNC9929	AB25446	11/5/99	8° C
WNC9930	AB25447	11/5/99	8° C
WNC9931	AB25448	11/5/99	8° C

QA/QC AND ANALYTICAL COMMENTS

The following comment appears on the Summary of Analytical Results:

A The amount detected is less than the quantitation limit, and is an estimated value.

No 1,4-dioxane was detected in the method blanks or the storage blanks associated with these samples.

All MS/MSD results were within QC limits with the following exceptions:

Sample ID	Laboratory Sample ID	Analyte	MS %Rec	MSD % Rec	QC Limit
WNC9931	AB25448	1,4-dioxane	136		70-130

All internal standard areas and retention times were within QC limits.

All LCS results were within QC limits.

All samples were analyzed within the holding time. The holding time for water samples is 14 days if preserved to a pH of less than or equal to 2 or 7 days if the sample is not acid preserved.

RESULTS SUMMARY

The results can be found on the Summary of Results report.

Any questions in reference to this data package may be addressed to Joseph Naughten at (510) 412-2358.

Glossary of Terms:

Method Blanks
A laboratory method blank is laboratory reagent water or sand with all reagents, surrogates, and internal standards added and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

Storage Blanks
A storage blank is laboratory reagent water that is stored in the laboratory refrigerator for one week. All reagents, surrogates, and internal standards are added at the time of analysis and it is processed through the same sample preparation and analytical procedures as the other blanks. The storage blank is used to determine the level of contamination introduced by the laboratory during sample storage.

Matrix Spike and Spike Duplicate Analysis
Matrix spike sample and spike duplicate analyses provide information about the effect of the sample matrix on sample preparation and measurement. Poor percent recovery (%R) results and large relative percent difference (RPD) between duplicates may indicate inconsistent laboratory technique, sample nonhomogeneity in soils, or matrix effects which may interfere with analysis.

Internal Standards
Internal standards are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but not normally found in environmental samples. All samples are spiked with internal standard compounds prior to analysis. Internal standard recoveries and retention times provide information about both the instrument performance on individual samples and the possible effects of the sample matrix on the analytical results.

Laboratory Control Samples
Laboratory control samples (LCSs) are analyzed daily to demonstrate comparability of the continuing calibration standard. It is equivalent to the continuing calibration standard, but it is obtained from an independent source.

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R00S05
Site: Whittier Narrows Comprehensive
SDG: 99308A
Date: 12/8/99

Analysis: 1,4-dioxane
Matrix: Water

Sample No.														
Sample ID	WNC9921			WNC9922			WNC9923			WNC9924			WNC9925		
Lab Sample ID	AB25381			AB25382			AB25383			AB25415			AB25416		
Date of Collection	11/3/99			11/3/99			11/3/99			11/4/99			11/4/99		
Units	ug/L			ug/L			ug/L			ug/L			ug/L		
Analyte	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt
1,4-dioxane	5	U		5	U		5	U		5	U		5	U	

Sample No.														
Sample ID	WNC9926			WNC9927			WNC9928			WNC9929			WNC9930		
Lab Sample ID	AB25417			AB25418			AB25445			AB25446			AB25447		
Date of Collection	11/4/99			11/4/99			11/5/99			11/5/99			11/5/99		
Units	ug/L			ug/L			ug/L			ug/L			ug/L		
Analyte	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt
1,4-dioxane	5	U		5	U		5	U		5	U		5	U	

Sample No.														
Sample ID	WNC9931			WNC9932			WNC9933			WNC9934			WNC9935		
Lab Sample ID	AB25448			AB25480			AB25481			AB25482			AB25483		
Date of Collection	11/5/99			11/9/99			11/9/99			11/9/99			11/9/99		
Units	ug/L			ug/L			ug/L			ug/L			ug/L		
Analyte	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt
1,4-dioxane	5	U		4	J	A	4	J	A	5	U		5	U	

Sample No.														
Sample ID	WNC9936			WNC9937			Method Blank			Method Blank			Method Blank		
Lab Sample ID	AB25484			AB25485			MWA1104			MXF1105A			MXF112A		
Date of Collection	11/9/99			11/9/99			n/a			n/a			n/a		
Units	ug/L			ug/L			ug/L			ug/L			ug/L		
Analyte	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt
1,4-dioxane	5	U		3	J	A	5	U		5	U		5	U	

Sample No.	Method			Storage Blank			Storage Blank			Quantitation					
Sample ID	Blank			VHBLK1025			VHBLK1103			Limit					
Lab Sample ID	MXF1116A			SBA1103			SB1118								
Date of Collection	n/a			n/a			n/a								
Units	ug/L			ug/L			ug/L			ug/L			ug/L		
Analyte	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt
1,4-dioxane	5	U		5	U		5	U		5					

Q-Laboratory Data Qualifiers J-The amount detected is an estimated value.
U-This compound was analyzed for, but not detect Cmt-See Report Narrative for Comment